

OBITUARY NOTICES OF FELLOWS DECEASED.

Dr. GEORGE BUDD was born in 1808. He was the third son of Mr. Samuel Budd, surgeon, of North Tawton, in Devonshire, and one of nine brothers, seven of whom have successfully studied and practised medicine. Having feeble health in early life, he was educated at home till he went to Cambridge in 1827.

In his first year he was at St. John's, afterwards at Caius', and in both colleges he lived a quiet studious life, reading hard, though often interrupted by illness. He was third wrangler in a good year (1831), and was soon elected to a fellowship in his college. He studied medicine at the Middlesex Hospital; was elected a Fellow of the Royal Society in 1836; took his degree of M.D. in 1848; and soon after became a Fellow of the Royal College of Physicians. His first publication was an ingenious essay on the Stethoscope as an Acoustic Instrument, in the "Medical Gazette" of 1837. It brought him good repute, and in the same year he was appointed Physician to the "Dreadnought" hospital ship, an office which he desired chiefly because it gave better opportunities for thorough pathological study than could, at that time, be found in any but the largest hospitals in London. It was here that, in association with Mr. Busk, he made his researches on Cholera and Scurvy, and collected the greater part of the pathological facts on which he based his later works on the Diseases of the Liver and of the Stomach.

Of the papers on Cholera, the first, in the "Medico-Chirurgical Transactions" (vol. xxi), by himself and Mr. Busk, is a report on cases in the "Dreadnought" during the epidemic of 1837; the second (in vol. xxii) a statistical account of cases collected from the records of the same hospital in 1832. They are among the best writings on the Cholera in this country; and the second, especially, is a good instance of the influence of the teaching of Louis, whose "numerical method," then hardly appreciated, had so great a share in promoting accuracy in medical research. Their chief results are collected in his essay on Cholera in "Tweedie's Library of Practical Medicine" (vol. iv), which also contains (in vol. v) his admirable essay on Scurvy, with Mr. Busk's observations on the condition of the blood in that disease.

In the same year (1837-8), and in the same Transactions, Dr. Budd

published papers on Concentric Hypertrophy of the Heart and on Emphysema of the Lungs. In the former he established and applied Cruveilheir's opinion that this condition of hearts is characteristic of those "which death has surprised in all their energy of contractility." In the latter, he demonstrated the effects of the lungs' loss of elasticity, and, from experiments made with Mr. Busk, showed the inactivity of the tracheal and bronchial muscular fibres under galvanic stimulus, and thence argued against the too often assumed influence of the muscular structure of the air-tubes in the phenomena of asthma.

Each of these essays shows great habitual care in studying disease, not only in its own signs, but with constant reference to the best knowledge of the natural structure and action of the affected parts. The same method is evident in a paper in the forty-second volume of the "*Medico-Chirurgical Transactions*," in which he showed that the inflammatory changes in the lungs, in cases of primary cancer within the chest, are very probably due to the morbid growths involving the pulmonary nerve-plexuses, and thus producing effects similar to those produced by injury to the trunk or branches of the fifth cerebral nerve.

The same good method of study is shown on a much larger scale, and with a vast amount of careful observation and research, in Dr. Budd's chief work, his *Treatise on Diseases of the Liver*, published in 1845. Writing of this, Dr. Wilson Fox, who may be deemed the most capable judge, says, "He may fairly be said to be the first writer who, for nearly half a century, had systematised the practical knowledge of liver-diseases; and he, for the first time, gave this knowledge the form which it has retained for nearly forty years. This he did through the fact that he impressed on nearly every statement his own careful clinical observation, and reinvestigated the pathology of the subject in the light of the then recent anatomical works of Kiernan and Bowman. The result has been that his book remains and must remain an original work of the highest value, and marking a period."

Of scarcely less value was the *Treatise on Diseases of the Stomach*, published in 1855. It abounds in valuable clinical observations and cases carefully recorded, including those by which he showed that the self-digestion of the stomach after death is often due to specially corrosive secretions, whose action during life is prevented by the alkalinity of the circulating blood. His arguments on this subject show singularly clear and ingenious thought; just as do those with which, in his treatise on the liver, he proved that hepatic abscesses are very often due, not only to phlebitis of the minutest portal veins, but to blood-poisoning from diseased intestines, and criticised Claude Bernard's hepatogenic theory of diabetes in the presence of this

disease with a degree of cirrhosis which had almost destroyed the structure of the liver.*

In 1848 Dr. Budd succeeded Sir Thomas Watson as Professor of Medicine in King's College, and was appointed Physician to its Hospital. He held this office for more than twenty years, and was actively engaged in teaching and with increasing private practice. He was a clear, emphatic, and persuasive lecturer, and in his clinical work, in both private and hospital practice, showed excellent examples of patient, exacting, and complete inquiry, and of careful study.

In 1866, with failing health, he retired from active life, and, from that time to his death, in March, 1882, lived quietly and studiously among his friends in Devonshire. The influence of his admirable personal character, and of his constancy in the patient, thoughtful striving for exact knowledge, will long survive among his many friends and pupils. In the history of medical science he will worthily rank with his brother, William Budd, a distinguished Fellow of the Society, to whom we owe, among many other good works, the first and best observations on the transmission of the typhoid infection in the intestinal excreta, and on the analogy between tuberculosis and infective fevers.—J. P.

JOSEPH DECAISNE, though so long a prominent figure in the French scientific world, was by birth a Belgian, having been born in Brussels, March 11, 1807. His brother, who survives him, is Honorary Inspector-General of the Belgian Army Medical Service. Decaisne entered the Jardin des Plantes, where the whole of his subsequent life was to be spent, as a gardener, at the early age of seventeen. He made his first contribution to botanical literature in 1831, in a paper on the characters of the French species of *Herniaria*; in 1840 he was attached to the Herbarium as *aide naturaliste*, finally returning to the Garden as *Professeur de Culture* and *Directeur* in succession to Mirbel. The half-century from Mirbel to the present day covers our whole modern knowledge of the histology and morphology of plants. The demonstrations of our class-rooms already seem a little commonplace; yet they deal with structures and phenomena which, when Decaisne first began to work, were things undreamt of.

In 1837 he published a memoir on the anatomy and physiology of the madder-plant and the development of its colouring matter. This was an excellent piece of work, remarkable at its time as an example of detailed study of the structure and life-history of an individual plant. At a very early period he turned his attention to the serious study of *Algæ*, and it is perhaps in connexion with this group that he

* Besides the above-named works Dr. Budd published in journals, chiefly in the "Medical Gazette," several short papers and lectures, including the Gulstonian and Croonian Lectures delivered at the College of Physicians in 1843 and 1847.

has left his most indelible mark in botanical science. In 1841 he showed once for all that the *Polypiers calcifères* of Lamouroux were not merely *Algæ*, but that the affinities of the diverse types which they comprised could be determined with some certainty. This conclusion was not a happy guess, but was based on a laborious examination of the whole class of *Algæ* with the object of arranging their chaotic assemblage on a basis approaching as nearly as possible to a natural classification. The results were given in an elaborate paper, published in 1842. The divisions proposed are not essentially very different from those which are generally accepted at the present day; and they were really more natural than the subsequent but far more artificial classification proposed by Harvey, which has long held its ground in this country.

In this particular line Decaisne himself, owing probably to the distraction of his energy by official duties, did little more. Notwithstanding this, he must always be regarded as the founder of the French school of Algology, the literature of which is the basis of our present knowledge of this branch of vegetable morphology. In 1839 Thuret came to Paris, and received from Decaisne instruction in the rudiments of botany. Decaisne and Thuret began to work together on the reproduction of *Fucus*, which they procured from the fish-market of Paris. They soon found it, however, necessary to visit the coast to carry on their observations, the results of which were published in 1844 in a joint paper in which they first accurately described the antherozoids, assigning to them their true function, and gave an account in some of the species of the beautiful process of the division of the primary oosphere. After Decaisne's appointment to the Direction of the Jardin des Plantes, Thuret carried on his algological work for a time alone, ultimately associating himself with Dr. Bornet, who is happily still living, and occupied with the gradual publication of their joint and classical work.

In 1858 Decaisne began the publication of "Le Jardin Fruitier du Museum," which was only brought to completion within a few years of his death. This in form is one of the most sumptuous of modern botanical books; in matter it is a monument of patient labour on the cultivated forms of fruit-plants, elaborated in the thorough spirit of the naturalist; its value in a scientific sense will gain with time when the races figured and described in it are supplanted and lost. Students in the future will turn to Decaisne's minute and laborious pages to compare the phases of variation which he has permanently recorded. In much other work of this kind he had the collaboration of his friend Naudin, now director of the botanical station at Thuret's country seat at Antibes, which the heirs of the latter presented to the French Government.

Decaisne did not, however, by any means devote all his energy to

the study of the forms of cultivated plants under his charge. He was always occupied with the elaboration of careful dissections and descriptions of new and interesting genera and species of plants. He was an admirable draughtsman, and the "Traité Général de Botanique, Descriptive et Analytique," which he published in conjunction with Le Maout in 1868, is a perfect treasure-house to the student, enriched on every page with the results of his minute and careful observations and the work of his accurate pencil.

Besides this elaborate review of the whole vegetable kingdom, Decaisne published many useful contributions to detailed systematic botany. Among these may be mentioned his classical memoir on the *Lardizabaleæ* (1837), that on *Pomaceæ*, and the *Asclepiadeæ* and *Plantagineæ*, elaborated for De Candolle's "Prodromus."

To the period of his attachment to the herbarium of the Jardin des Plantes belong his few but standard contributions to phytogeographic literature. These include papers on the plants of Arabia Felix, Egypt, Sinai, and Timor. Morphological botany owes to him, besides the memoir on madder already mentioned, a well-known research (1841) on the development of the pollen and ovule and the structure of the stem of mistletoe (*Viscum album*), and a study on the floral organogeny of the pear (1857), the excellence of which shows how much Decaisne could have done in this branch of botany had his circumstances and leisure allowed him to devote more attention to it.

In 1842, on the death of Guillemin, he was associated with Adolphe Brongniart in the editorship of the botanical part of the "Annales des Sciences Naturelles," and on the death of the latter became sole editor. In 1847 he was elected a member of the Institute, taking the place of Dutrochet. In 1864 he was President of the Académie des Sciences; and in 1877 was elected a Foreign Member of the Royal Society. He was one of the principal founders of the Botanical Society of France in 1854, and as long as health allowed was an assiduous attendant at its meetings.

The note of Decaisne's scientific work was patient and laborious observation of facts. He was one of those whose life was spent in making sure the foundations of taxonomic botany, and every subsequent worker will build the more securely for what Decaisne has done. That his mental character was essentially precise and matter-of-fact is merely what we should expect from the direction of his work. From this no doubt it followed that the doctrines of evolution, which in England and Germany have given a new impulse to biological study, interested him little. Not that his mind was wanting in flexibility to new ideas: he warmly supported the investigations made by Bornet in confirmation of Schwendener's theory as to the nature of lichens—a view which has met with much opposition from the older botanists who are, for the most part, unwilling to abandon

the conception of lichens as autonomous organisms. His method of work, partly no doubt cramped by the inroads on his time of official duties, made him more and more disinclined to generalise from large series of facts. In striving for minute accuracy he, especially in his later work, somewhat lost the gift of seeing things in a larger perspective.

He was never married, and to his friend Bornet fell the lot of watching his last moments.—W. T. T. D.

SIR JAMES ALDERSON was born at Hull on the 30th December, 1794. He was the youngest son of Dr. John Alderson, an eminent physician of Hull, who had for many years an extensive practice in the East Riding of Yorkshire. Young Alderson received his early education at a school in his native town kept by the Rev. George Lee, a Dissenting clergyman, and afterwards (in the year 1818) proceeded to Cambridge and entered at Pembroke College, and four years after took the degree of B.A. with the distinction of being Sixth Wrangler of that year. He was soon afterwards elected a Fellow of Pembroke, and in due course received the degree of M.A. Having chosen medicine as his profession, he pursued his studies in London and Edinburgh, and subsequently went to Oxford, and being incorporated at Magdalen Hall, received the M.D. degree in 1829. The following year he became a Fellow of the College of Physicians, and for a short time settled in London with the object of practising his profession, during which period of his career he held the office of Physician to the Public Dispensary. On the death of his father, however (in 1829), he removed to Hull, where he rapidly acquired a large consulting practice in the town and neighbourhood. He was much respected by his professional brethren and by the general public, and took a warm interest in promoting every scheme likely to advance the educational movement of the day.

In 1845 Dr. Alderson returned to London, and was elected one of the Physicians of St. Mary's Hospital, the duties of which appointment he discharged with great zeal for nearly twenty years; and on his retirement after this long service, he still retained a connexion with the institution by accepting the compliment paid to him by the Governors in unanimously electing him Consulting Physician.

Having been elected a Fellow of the College of Physicians in 1830, and shown much interest in the changes which were gradually taking place in the medical corporations, and more especially in the College of Physicians, he was appointed Treasurer of the College in 1854, an office for which, from the methodical and exact bent of his mind, he was peculiarly fitted. This office he resigned in 1867 on his being chosen President of the College, receiving the honour of re-election in the four following years. He was the representative of the College at the

General Council of Medical Education and Registration for 1864, 1865, and 1866. In 1869, Dr. Alderson had the honour of knighthood conferred on him, and in the following year the honorary degree of D.C.L. by the University of Oxford.

Five years later Sir James Alderson was appointed Physician Extraordinary to Her Majesty.

Though an observant and experienced physician, he was not a frequent contributor to the literature of his profession. He delivered the Lumleian Lectures in 1852 and 1853, and, what is unusual, was twice appointed to deliver the Harveian Oration, viz., in 1854 and 1867. He pointed out and described collapse of the lung in connexion with whooping-cough in a paper read before the Medico-Chirurgical Society, and published in the Transactions of that Society.

He was also the author of a work, published in 1847, on "Diseases of the Stomach and Alimentary Canal," in which he embodied the result of his extensive experience in a most important class of diseases.

CHARLES ANSELL, a distinguished actuary, for many years known as the father of his profession, was born in December, 1794. When 14 years old, he entered the "Atlas" office as a junior, and two years later was appointed on the staff. In 1823 he was raised to the post of Actuary of the Company, which he retained till 1864, a period of 41 years. He then retired, but retained the office of Consulting Actuary. He held the same responsible post in several other societies, and among them the National Provident, of which he completed the *Bonus* investigation when in his 80th year—a notable *tour de force* for one of so advanced an age.

Mr. Ansell was often consulted by the Government on subjects bearing on national finance, and in 1864 was warmly commended by Mr. Gladstone. He was also examined before several Select and Royal Commissions, on questions involving actuarial considerations. He was, however, best known for the services he rendered to Friendly Societies, on which subject he wrote a valuable treatise in 1835, having been elected F.R.S. the previous year. This treatise was issued as one of the series published by the Society for the Diffusion of Useful Knowledge, which body is credited with the first successful attempt to collect facts bearing on the sickness and mortality of the working classes of England. The Society caused schedules to be printed and circulated, and those returns which were least imperfect among them Mr. Ansell used as materials for his tables and calculations. The comprehensive and scientific character of this work may be inferred from the fact that it treats of "The Doctrine of Interest of Money" and "The Doctrine of Probability," contains numerous tables, and an appendix of the Acts of Parliament relating

to friendly societies. A large professional practice followed naturally on this publication. He died December 14, 1881, at the advanced age of 87.

DECIMUS BURTON, born September 30, 1800, was, as his name implies, the tenth son of James Burton, one of the most enterprising and successful builders of his day. He was practically educated as an architect in the office of his father, who at that time was extensively engaged under Mr. Nash's superintendence in designing and erecting the terraces which surround the Regent's Park, and also the Regent Street improvements. In consequence of this employment, he has been credited with the design of several of those terraces, but there seems no foundation for the report, and none of them show that careful study of design and detail, which marked all his subsequent works. After leaving his father's office, Mr. Burton completed his professional education in the office of Mr. George Maddox, at that time an architect in considerable practice. He then, without any interval devoted to foreign travel or other preparation, entered at the early age of twenty-one on the active duties of his profession, and owing apparently to the excellent introduction afforded by his father's connexion, he commenced with an amount of employment which seems never to have failed him during the fifty years that he continued the practice of an architect. One of his earliest works was the villa which he built for Mr. Greenough in the Regent's Park, which as originally erected was one of the most elegant and successful adaptations of the Grecian style to purposes of modern domestic architecture to be found in this or any other country.

In 1823 he erected, on the east side of the Park, the Colosseum to contain the Panorama of London, drawn by Mr. Horner. This, however, can hardly be said to have been a successful design, though it was only another exemplification of the difficulty of combining the rectilinear lines of a classical portico to the circular form of a domical structure. The Roman architects, even with their more flexible style, failed in producing a happy result in the Pantheon, and it is therefore not to be wondered at that we saw the work of a modern architect who attempted the same thing disappear without an expression of regret. He was far more successful in the arches which, in 1825, he was commissioned to erect on Hyde Park Corner.* The arch leading to Buckingham Palace, though somewhat lacking in originality of design, is a singularly elegant adaptation to a perfectly legitimate purpose,

* One of the minor sorrows of Mr. Burton's life was the disfigurement of this arch by its being used as a pedestal for the Duke of Wellington's statue, a purpose for which it was singularly ill-suited. He felt this most keenly, but had he lived a year longer, he probably might have been consoled by its removal.

of the Roman triumphal archway. The screen opposite leading into Hyde Park, though showing quite as much elegance, is more original, and like some of the park lodges which he erected at the same time, evinces a mastery of the elements of design in the classical styles that has rarely been surpassed.

Shortly after this (1827) the Athenæum Club was erected from his designs, and this, considering that it was one of the first of its class, and that a very small sum only was placed at his disposal, may be considered as one of his most successful works. The entrance hall and staircase are not surpassed for dignity of design by anything in any club in London, and the drawing-room, both in its proportions and details, is one of the most beautiful rooms, of its class, anywhere to be seen.

Before these works were completed he received a retainer from Mr. James Ward to lay out and design the villas and buildings of Calverley Park, Tunbridge Wells. This occupied his time almost entirely for the next few years, and after that he seems to have been no longer ambitious of public employment, but to have been content with the practice of his profession among a numerous body of constituents who kept him fully and profitably employed in a far more agreeable manner than in the struggle for what are considered the great prizes of the profession. All his works consequently in which the public feel much interest were erected during the first ten years of his professional career. During the remaining forty, till his retirement in 1869, he erected and altered innumerable houses, and especially horticultural edifices for the Dukes of Devonshire and Northumberland, and other noblemen and gentlemen, by all of whom he was treated more as a friend than as a professional adviser. The extreme amiability of his character, and his thoroughly gentlemanly conduct in all his business arrangements, endeared him to all with whom he came in contact. He was elected a Fellow of the Royal Society in 1832.

In no instance was Mr. Burton ever suspected of sacrificing the interest of a client for his own glorification, or for the indulgence of his own individual fancies. Having placed at his client's disposal all the resources of his long experience, and sound practical sense, and good taste, he set at once loyally to carry out the wishes of his employer with an amount of self-negation rare in the profession. Few men have consequently gone through a long professional career with a more numerous body of friends and fewer enemies.

Though declining to compete for any of the great works at the disposal of Government, Mr. Burton never ceased to be connected with Her Majesty's Board of Works. All the buildings in Kew Gardens were erected from his designs and under his superintendence. So were those in the Phoenix Park, Dublin; and the Embassy in Paris

was for some time under his charge. All the buildings in the Royal Botanic Gardens and the Zoological Gardens were designed by him. Curiously enough he never during his long career was called upon to erect any church or ecclesiastical edifice of any importance, but he was employed conjointly with his friend Sidney Smirke in the restoration of the Temple Church.

In 1869 Mr. Burton retired from the active pursuit of his professional duties, having realised an ample competence by their exercise, and spent the remaining years of his life partly at St. Leonard's, where he had built himself a charming villa residence, and partly in London, in Gloucester Houses, where he died. Notwithstanding his failing health during these last few years, he continued to dispense the most genial hospitality, and to enjoy the social intercourse of his numerous friends to the very last. He died the most peaceful of deaths at the ripe old age of eighty-one years, December 14, 1881.

J. F.

By the death of the Rt. Hon. SIR JAMES COLVILLE, the Society lost a Fellow of the Privileged Class, one whose disinterested and judicious labours as President of the Asiatic Society of Bengal, contributed materially to the progress of science in British India for a decade of years, during which time all the resources of his cultivated intellect, of his high official position, and of his hospitable house, were as unobtrusively as liberally placed at the services of the Society, and its members individually.

James William Colville, born in 1810, was the eldest son of Andrew Wedderburn Colville, Esq., of Ochiltree and Crombie in Fife, and the Hon. Louisa Mary Eden, sister of the second Lord Auckland; the latter as Governor-General of India, and subsequently as First Lord of the Admiralty, was no less distinguished than his nephew for his efforts in the advancement of science. From Eton he went to Trinity College, Cambridge, graduating as M.A. in 1834, after having attained the rank of Senior Optime; the late Bishop Selwyn being Junior Optime in the same year. At Cambridge he formed what proved to be a life-long friendship with our Fellow, Lord Houghton. He was called to the Bar (Inner Temple) in 1835, and practised as an equity draftsman for ten years at chambers in Lincoln's Inn. In 1845 he accepted the office of Advocate-General to the Hon. East India Company; proceeding thereupon to Calcutta. In 1848 he was raised to the Bench as Puisne Judge of the Supreme Court of Bengal and, as is usual in such cases, was knighted. In 1855 he succeeded to the Chief Justiceship, which he held for four years, retiring and returning to England in 1859.

During his residence in India Sir James married Frances Elinor, daughter of Sir John Peter Grant, K.C.B., G.C.M.G., of Rothiemurchus,

formerly Lieut.-Governor of Bengal, and subsequently Governor of the Island of Jamaica. Lady Colville survives him, but their only child, a son, died in early youth.

Immediately after his return to England Sir James was sworn in as a Privy Councillor, and made one of the assessors to the Judicial Committee of the Council on Indian Appeals; his fellow assessor being Sir Lawrence Peel, his predecessor in the Chief Justiceship of Bengal, and his most intimate friend. In 1865 he became a member of the Judicial Committee itself, and in 1871 (on the re-organization of the Council) he was chosen one of the paid judges of the same.

Sir James Colville's legal attainments were of a very high order. It is written of him by a competent judge, "His knowledge of Indian systems of law, and his acquaintance with India were highly valued by his colleagues and by suitors; and his judgments were full and exhaustive statements, often of cases intricate and involved in the highest degree. According to the custom of the Privy Council, they embodied the opinions, which he had assisted to form, of other judges; the practice of a separate judgment being delivered by each judge not having taken root."

It was, however, as the wise, the calm, the considerate President of the Asiatic Society of Bengal, that Sir J. Colville's name and memory are esteemed by every scientific man who had the privilege of knowing him in India. He occupied the chair from the date of the resignation of his genial predecessor, Governor-General Lord Hardinge, in December, 1847, till that of his own departure from England in 1848. During not a few years of that interval, when the Society's affairs were troubled, and itself not exempt from internal dissensions, it was steered through its difficulties by the inexhaustible patience, sound judgment, firmness, and conciliatory measures and manners of its watchful chief. It need hardly be added, that when he left India, the Council of the Society placed on record its feelings of regret at the loss of his valuable services, and its thanks for the zeal and ability with which he had for ten years discharged the office of President, and had promoted the objects and interests of the Society.

After his return, Sir James resided during the autumn vacation at his seat, Craigflower in Fife, on the banks of the Forth, a few miles west of Dunfermline, a property which he inherited and to which he was devotedly attached. He died at his residence in London, 8, Rutland Gate, from a sudden cessation of the heart's action, preceded, however, by a gradual failure of both the digestive and circulatory powers. He was elected a Fellow of this Society on April 29th, 1875, being one of the first under the modified rules for the election of persons of the Privileged Class, which restricted these to members of the Privy Council.

J. D. H.

DR. GEORGE DICKIE was born in Aberdeen on the 23rd November, 1813, and received his education there, graduating M.A. in Marischal College, in 1830. He thereafter commenced the study of medicine in his native city, completing his medical education in Edinburgh, where he gained the Medal for Pathology and Practice of Medicine in the Brown Square Medical School, in 1833. In 1834 he became M.R.C.S. of London, and in 1842 received the honorary degree of M.D. from King's College, the University of old Aberdeen.

He originally intended to enter the naval medical service, but abandoned that intention, and entered on medical practice in Aberdeen. His tastes, however, lay very strongly in the direction of natural science, especially botany, and in 1839 he was appointed Lecturer on Botany in King's College; and subsequently on *Materia Medica* and on Zoology, and he further held the office of Librarian to the University. In 1849 he resigned these offices, having been appointed to the newly created professorship of natural history in the University of Belfast; but in 1860, on the establishment of a professorship of botany in that of Aberdeen, he was appointed to it and returned to his native city. Soon after his return he suffered from a severe attack of illness, which resulted in increasing deafness and more or less chronic bronchitis; but he continued to discharge the duties of the professorship till 1877, when the state of his health obliged him to resign.

In 1838 he became a member of the Edinburgh Botanical Society (of which he was elected a Honorary Fellow in 1877), in 1863 he was elected F.L.S., and in 1881 F.R.S. He was also a member of the Société des Sciences Naturelles de Cherbourg, and of several local Societies.

Dr. Dickie began in early life to investigate the flora of the district around Aberdeen, the results of which he published in 1837; and from that time onwards he published numerous articles chiefly on the morphology and physiology of plants in the Journals and Transactions of scientific Societies. In 1844 appeared his first article on Algæ, to which group he devoted more and more of his time, and to which his published articles of late years almost exclusively relate. He also contributed botanical appendices to the works of various Arctic travellers and voyagers and to the reports on the Transit of Venus expeditions, and he worked out the Algæ of the "Challenger" expedition. The value and care of his investigations as an observer are attested, and the assistance rendered by him acknowledged, in Harvey's "*Phycologia Britannica*," Ralf's "*British Desmideæ*," Smith's "*British Diatomaceæ*," and Macgillivray's "*Natural History of Deeside and Braemar*." He was author of "*A Flora of Aberdeen*" (1838), "*The Botanist's Guide to the Counties of Aberdeen, Banff, and Kincardine*" (1860), and "*A Flora of Ulster*" (1864). In all

these works he enumerates the vascular plants of the districts treated of, and gives much information as to their localities and altitudinal range, and in the "Botanist's Guide," he includes the cellular cryptogams so far as known to himself, and of the marine Algae in particular he gives a very complete list.

Dr. Dickie did not confine his studies to botany, but wrote also on zoology, treating chiefly of morphology. In conjunction with Dr. McCosh he was author of "Typical Forms and Special Ends in Creation," to which he contributed those parts that relate to botany, zoology, physiology, geology, and physical geography. In this work the authors seek to indicate the evidences of design in the universe discoverable alike in the general principles that prevail throughout, and in the special adaptations of organised beings to their environments.

In private life Dr. Dickie was much esteemed. He was ever ready to aid those in need of assistance in every way in his power; and as professor gained the respect and esteem of his students, not a few of whom owe their success in after life to his devotion to their culture and future careers.

Dr. Dickie's constitution was never robust; he overtaxed his strength when young, and in middle life by his exertions in the field as an observer and collector, and he suffered from chronic deafness. During an excursion in Braemar with his students, in 1861, he exposed himself for several days of very severe weather, which resulted in bronchitis and its complications, from which he never entirely recovered. This and increasing deafness latterly cut him off from personal communication with strangers, but his correspondence and his interest in scientific pursuits were never relaxed. In the early part of this year he had a severe attack of bronchitis, which after recoveries and relapses carried him off on the 15th July, 1882.

Dr. Dickie married, in 1856, Miss Agnes Low, of Aberdeen, who survives him, and by whom he had six children.

RONALD CAMPBELL GUNN was an ardent naturalist, and to his exertions far more than to those of any others we are indebted for a knowledge of the botany and zoology of his adopted colony, Tasmania.

Mr. Gunn, the son of an officer in the army, was born at Cape Town on April 4th, 1808, and was brought thence to Bourbon, at the capture of which place his father assisted. Until 1816 he accompanied his father's regiment to the Mauritius, the West Indies, and Scotland, where he resided for eight years. His name was placed on the Commander-in-Chief's list for a commission in the army; this, however, he never received: but an appointment in the department of the Royal Engineers at Barbadoes was given him, which he held till 1829, when he emigrated to Tasmania. Here he became

successively assistant superintendent of convict barracks at Hobarton, superintendent of convicts for the northern division of the island, police magistrate, and coroner, first at Circular Head and lastly at Hobarton.

It was not till 1831 that Mr. Gunn's taste for science was developed, and this was due to the example of a young colonial naturalist of high promise, Mr. William Lawrence, who died within a year after having inoculated his friend with a passion for his own pursuits. Up to this time the natural history of Tasmania, an island as large as Ireland, was known only through the partially published botanical collections of Robert Brown, made at two spots only during Flinders' memorable voyage at the beginning of the century; with this exception it was both botanically and geologically almost a *terra incognita*. Provided with introductory letters by Mr. Lawrence to Sir W. Hooker and Dr. Lindley, Mr. Gunn entered into an active correspondence with those gentlemen, which he maintained with unflagging zeal and interest for upwards of a quarter of a century, travelling all over the island, transmitting to England carefully preserved specimens accompanied with copious notes and descriptions, and receiving in return books, instruments, and appliances whereby he rapidly acquired a good scientific knowledge, especially of the botany of the island, which greatly enhanced the value of his successive collections.

Mr. Gunn's labours were not confined to botany; through the above-named friends he was introduced to Dr. J. E. Gray and other officers of the British Museum, to which and to other bodies he contributed magnificent collections of mammals, birds, reptiles and mollusca. He further made himself so competent a geologist that he was employed by the Government to report on various public works and on the goldfields, and especially on alleged discoveries of the precious metals. Of his general ability and the confidence reposed in him no higher testimony could be conceived than the fact of his having been in 1864 appointed at the request of the Government of New Zealand, one of three commissioners (the others representing New South Wales and Victoria) for determining the most suitable site for the capital of New Zealand, a quarter of a century after its colonisation; their inquiries resulted in the unanimous selection of Wellington.

A man of the energy, ability, and attainments of Mr. Gunn was not likely to escape the notice of such a Governor of the Colony as Sir John Franklin who, almost immediately after his arrival, appointed him to the office of Clerk to the Executive and Legislative Councils, to which Sir John added that of private secretary to himself. Government House became at once a small scientific circle, and a close intimacy sprang up between Mr. Gunn and

Sir John and Lady Franklin, which lasted through their lives. This coterie was soon largely though only temporarily augmented by the arrival in Hobarton in 1840 of the Antarctic Expedition under Sir James Clark Ross, who together with some of his officers, assisted Sir John and Lady Franklin and Mr. Gunn in founding the "Tasmanian Journal of Natural Science," the reading of papers for which took place in the drawing-room of Government House. From this small beginning sprang the Royal Society of Tasmania, and the nascent periodical subsequently grew into the "Proceedings of the Royal Society of Van Diemen's Land," of which Mr. Gunn was the editor, as he had been of the Journal, from the first.

Unfortunately Mr. Gunn's health broke down under the close confinement and long hours of office work at Hobarton; and after fulfilling various duties in Launceston and elsewhere, including that of member of the Legislative Council for Launceston, and of the House of Assembly for Selby, he was compelled to retire from the public service in 1876. He eventually succumbed, March 12, 1881, to attacks of creeping paralysis complicated with disease of the lungs.

Mr. Gunn's published labours are few, but the results of his collections and copious observations are embodied in various works on Australian science, and especially in Sir J. D. Hooker's "Flora of Tasmania," and in Mr. Gould's "Birds of Australia." In conjunction with the late Dr. J. E. Gray, he published notes and descriptions of the mammals and fish of Van Diemen's Land, and he was the author of a few other papers on the geology and some on the botany of that island, together with one on the encroachments of the sea on the north coast of Tasmania; he further contributed to "West's History of Tasmania" a compendium of its zoology.

Mr. Gunn was elected a Fellow of the Linnean Society in January, 1850, and of the Royal Society on June 1, 1854. J. D. H.

JOHN SCOTT RUSSELL, the eldest son of the Rev. David Russell, of Clydesdale, was born in 1808, and displayed at an early age a great predilection for mechanics and natural science. After some preliminary practical training he studied at the Universities of Edinburgh, St. Andrew's, and Glasgow, at which latter he graduated at the early age of sixteen. On the death of Sir John Leslie, Professor of Natural Philosophy in Edinburgh in 1832, Mr. Russell, being then only twenty-four years of age, was appointed temporarily to carry on the work of the chair during the session 1832-33.

About this time he commenced his well-known researches on the nature of waves, and the resistance of fluids to the motion of floating bodies. His first paper on this subject was read before the British Association in 1835, his deductions being founded on a very large and

elaborate series of experiments. In 1837 he read a second paper on the same subject, before the Royal Society of Edinburgh. The Society conferred on him their Keith Prize (a gold medal and a sum of money) in 1838, and elected him into their Council.

His principles of ship construction were first carried into execution in a vessel called the "Wave," built in 1835, and, subsequently, in many others, including the then new fleet of the West India Royal Mail Company, built by a company at Greenock, of which Mr. Russell was the manager.

He was elected in 1847 a member of the Institution of Civil Engineers, where he served on the Council, and was chosen one of the Vice-Presidents. In 1849 he was elected a Fellow of the Royal Society.

Mr. Scott Russell removed to London in 1844, and became well-known as a ship-builder on the Thames. In the capacity of contractor, and also assisting by his advice, he built the Great Eastern steamship, under the direction of the late Mr. Brunel, and constructed the paddle-wheel engines of that large ship.

His last work in naval construction was the steamer on the Lake of Constance, which carries railway trains between the termini of the German and Swiss railways.

Besides naval construction, Mr. Russell practised in other fields of engineering, one of his principal works being the great dome of the Vienna Exhibition of 1873.

Mr. Russell was appointed joint secretary with Sir Stafford Northcote of the Exhibition of 1851.

Although not a contributor to the papers in the Royal Society, yet he was the author of more than forty papers read at other Societies, including the Royal Society of Edinburgh, the British Association, and the Institutions of Civil Engineers and Naval Architects. In the latter Society he always took an active interest and was one of its earliest promoters.

Mr. Scott Russell was the author of the article on the steam-engine in the *Encyclopædia Britannica*, also a large work called the "Modern System of Naval Architecture for Commerce and War," and of a work on "Technical Education for the English People."

He was an accomplished linguist, and as a speaker possessed great clearness and skill in exposition.

W. H. B.

The subject of this memoir, COLONEL J. T. SMITH, R.E., the son of George Smith, Esq., of Edwalton, Notts, and afterwards of Foelallt, Cardiganshire, was born in or about the year 1805.

Destined for a military career, he was educated at Addiscombe, and in 1825 proceeded to India as an Officer of Engineers.

Upon being appointed to arrange a system of lights for the South

Indian Coast, he entered upon a series of optical investigations, and devised a reciprocating light, which was fixed in the lighthouse erected at Madras in 1838, after his designs.

Before this he had translated Vicat on "Cements," enriching that valuable work with the results of many original experiments, and he was elected a Fellow of the Royal Society in 1837.

He was next appointed to reorganise the Madras Mint, which he did with great skill and vigour. When remodelling the machinery he invented a machine for automatically weighing and assorting blanks, which gained an award at the Exhibition of 1851.

After a period of some twenty years in charge of the Madras, and latterly of the Calcutta, Mint, Colonel Smith returned to England, and, after acting for some time as Consulting Engineer to various Indian Irrigation Companies, became Chairman of the Madras Railway Company, a position which he held until the close of his life.

During late years his energies were directed chiefly to the consideration of the intricate questions of political economy connected with currency, &c. A careful study of the subject for many years, and a deep interest in India, led him to propose a remedy for the evils caused by the depreciation of silver in that country.

He brought forward his views with great earnestness and disinterestedness, and though the question has been forced aside by more pressing matters, his proposals have met with the approval of some of the leading political economists of the day, and it is hoped that by their fulfilment at some future time many millions may be saved to the revenues of India.

His knowledge of these and of kindred subjects led to his employment by the Government to make reports in conjunction with the late Professor Graham, F.R.S., upon questions of mintage, &c., and he was also appointed to attend the International Monetary Conference held at Paris in 1865.

Colonel Smith's active mind and varied talents led him to take an interest in many other subjects. He was a member of several societies, and the author of some works and several papers on various scientific matters.

In private life he was an humble Christian man. His aid as a wise and sympathising counsellor was widely sought, and his loss is deeply felt by a large number of friends.

P. S.

In WILLIAM NEWMARCH the city of London lost its most distinguished man of business, and the scientific world one of that small group of diligent and learned men who have most successfully brought the universal methods of logic and science to bear on the social life of man.

Mr. Newmarch was a Yorkshireman, born at Thirsk, January 28, 1820. He took his schooling at York, and, as a young man, held some clerkly appointments in that city. He early showed his literary taste and talent by publishing a Guide to the City, by frequent correspondence with the "Sheffield Iris," and by the delivery of lectures. Having served as a clerk under a stamp distributor, he passed to the Yorkshire Fire and Life Office at York, then to the banking house of Messrs. Leatham, Few, and Co., at Wakefield. From Wakefield he moved to London, and served on the staff of the Agra Bank. In 1852, he was appointed Secretary of the Globe Insurance Company, and took the lead in conducting the negotiations which resulted in the amalgamation of that office with the Liverpool and London Insurance Company. In 1862 he accepted the post of Manager in the banking house of Messrs. Glyn, Mills, Currie, and Co., which he did not resign till he had warnings of an attack of paralysis.

Mr. Newmarch always found the performance of his duties as an official consistent with an extraordinary amount of literary activity, coupled with earnest work on behalf of the many societies and public bodies to which he attached himself, and of some of which he was the founder. Among these we may mention the Cobden, Adam Smith, and Political Economy clubs, the Institutes of Actuaries and Bankers, and the Statistical Society. He was on the staff of the "Morning Chronicle," an occasional contributor to the "Times" and other leading papers, and a constant correspondent of the "Economist." His writings, for the most part anonymous, were devoted to questions of currency, banking, free trade, and the laws of industrial and commercial progress. In the Statistical Society, to which he was always warmly attached, he held in succession the offices of Honorary Secretary and Editor of its Journal, President for the usual term of two years (in succession to Mr. Gladstone), and Honorary Vice-President. As Editor of the Journal of the Society, he planned several of its periodical returns and tables, and he contributed to its pages many important papers and presidential addresses. To the last he continued to take a lively interest in the question of providing suitable house accommodation for the Statistical and cognate Societies; and made a strenuous but unsuccessful effort, by means of a company with limited liability, to carry this cherished object into effect. In 1861, he presided over the section of Economical Science and Statistics at the Session of the British Association held at Manchester.

One of Mr. Newmarch's series of papers, that on the New Gold Supplies, contributed to the pages of the "Morning Chronicle" in 1853, was afterwards printed as a separate volume. But the work on which his claim to permanent distinction must rest is that in which he took part with Mr. Thomas Tooke (also a Fellow of this Society), namely, the "History of Prices" published in 1856, but now

out of print. The two concluding volumes were from the pen of Mr. Newmarch. This work was at once recognised in England as a complete and masterly exposition of the great economic questions of the second quarter, and early part of the third quarter, of this century; namely, the Introduction of Free Trade, the Bank Charter Act, with the Development of the Banking System at home and abroad. The Gold Discoveries in Russia, California, and Australia, the Irish Famine and Emigration, and the Crimean War. Mr. Newmarch is understood to have been bent on continuing this work up to the present date; but, unfinished as it was, it was speedily accepted as a classic, and translated into German. It was to this work that he was chiefly indebted for his election as Corresponding Member of the Institute of France. He was chosen F.R.S. in 1861.

On the death of Mr. Tooke, Mr. Newmarch showed the high estimation in which he held him by taking the leading part in founding "The Tooke Professorship of Economic Science and Statistics" at King's College.

Mr. Newmarch was examined by the Select Committee on the Bank Act, and gave evidence before several Parliamentary Committees on economic questions, such as the currency and the income tax.

Mr. Newmarch was a fluent and effective speaker, and his writings are all marked by clearness, directness, and vigour. He held his own opinions with so firm a grasp that he was rather intolerant of opposition, and in debate appeared perhaps somewhat wanting in courtesy; but those who knew him well found in him a generous and warm-hearted man, an encourager of rising talent, and a firm friend. Take him all in all, he was assuredly one of the most remarkable among the self-made men of this century. He died at Torquay, March 23, 1882, after an illness of some duration, which began as an attack of palsy in 1881, from which he partially recovered. He had lost his only son through a painful illness, leaving the son's widow and his own, with one daughter, to lament his loss. W. A. G.